What is claimed is:

1. A polypeptide comprising the mCREBa amino acid sequence set forth in SEQ ID NO: 2.

2. A polynucleotide encoding the polypeptide according to claim 1.

3. The polynucleotide according to claim 2 comprising the sequence set forth in SEQ ID NO: 1.

4. The polynucleotide of claims 2 or 3 which is a DNA molecule.

5. The DNA of claim 4 ~~which is a cDNA~~ molecule.

6. The DNA of claim 4 which is a genomic DNA molecule.

7. The DNA of claim 4 which is a wholly or partially chemically synthesized DNA molecule.

8. An anti-sense polynucleotide which specifically hybridizes with the polynucleotide of claim 2.

9. A expression construct comprising the polynucleotide according to claim 2.

10. A host cell transformed or transfected with the polynucleotide according to claim 2 or 9.

11. A method for producing an mCREBa polypeptide comprising the steps of:

a) growing the host cell according to claim 5 under conditions appropriate for expression of the mCREBa polypeptide and

b) isolating the mCREBa polypeptide from the host cell of the medium of its growth.

12. An antibody specifically immunoreactive with the polypeptide according to claim 1.

13. The antibody according to claim 12 which is a monoclonal antibody.

14. A hybridoma which secretes the antibody according to claim 13.

15. An anti-idiotype antibody specifically immunoreactive with the antibody according to claim 12.

16. A method to identify modulators of mCREBa binding to DNA comprising the steps of:

a) incubating mCREBa with a DNA sequence known to specifically bind mCREBa;

b) determining the degree of binding between mCREBa and the DNA sequence;

c) repeating step (a) in the presence of a putative modulator of mCREBa binding to the DNA sequences; and

d) comparing binding of mCREBa with the DNA sequence in the presence of the putative modulator to the interaction determined in step (b), wherein increased binding in the presence of the putative modulator is indicative of a binding enhancer and decreased binding in the presence of the putative modulator is indicative of a binding repressor.

17. A method to identify an inhibitor of binding between mCREBa or binding fragment thereof and a mCREBa-binding protein or binding fragment thereof comprising the steps of:

a) producing host cells transformed or transfected with DNA comprising:

a repressor gene encoding a repressor protein, said repressor gene under transcriptional control of a promoter;

a selectable marker gene encoding a selectable marker protein; said selectable marker gene under transcriptional control of an operator; said operator regulated by interaction with said repressor protein;

a first recombinant fusion protein gene encoding mCREBa or a binding fragment thereof in frame with either a DNA binding domain of a transcriptional activating protein or a transactivating domain of a transcriptional activating protein; and

a second recombinant fusion protein gene encoding a mCREBa-binding protein or binding fragment thereof in frame with either a DNA binding domain of a transcriptional activating protein or a

transactivating domain of a transcriptional activating protein, whichever domain is not encoded by the first fusion protein gene, said second binding protein or binding fragment thereof capable of interacting with said first binding protein or binding fragment thereof such that interaction of said second binding protein or binding fragment thereof and said first binding protein or binding fragment thereof brings into proximity a DNA binding domain and a ~~transactivating~~ domain forming a functional transcriptional activating protein; said functional transcriptional activating protein acting on said promoter to increase expression of said repressor gene.

b) growing the host cells in the absence of a test compound and under conditions which permit expression of said mCREBa or binding fragment thereof and said mCREBa-binding protein ~~or~~ binding fragment thereof such that said mCREBa or fragment thereof and said mCREBa binding protein or binding fragment thereof interact bringing into proximity said DNA binding domain and said transactivating domain forming said functional transcriptional activating protein; said transcriptional activating protein acting on said promoter to increase expression of said repressor protein, said repressor protein interacting with said operator such that said selectable marker protein is not expressed;

c) confirming lack of expression of said selectable marker protein in said host cell;

d) growing said host cells in the presence of a test compound; and

e) comparing expression of said selectable marker protein in the presence and absence of said test compound wherein increased expression of said selectable marker protein is indicative that the test compound is an inhibitor of binding between said first binding protein or binding fragment thereof and said second binding protein or binding fragment thereof.

18. The method of claim 17 wherein said DNA binding domain and said transactivating domain are derived from a common transcriptional activating protein.

19. The method of claim 17 wherein one or more of the repressor gene, the selectable marker gene, the first recombinant fusion protein gene, and the second recombinant fusion protein gene are encoded on distinct DNA expression constructs.

20. The method of claim 17 wherein said selectable marker protein is an enzyme in a pathway for synthesis of a nutritional requirement for said host cell such that expression of said selectable marker protein is required for growth of said host cell on media lacking said nutritional requirement.

21. The method of claim 17 wherein said host cell is a yeast cell or a mammalian.

22. The method of claim 18 wherein said selectable marker gene encodes HIS3;

23. The method of claim 18 wherein said repressor protein gene encodes a tetracycline resistance protein;

24. The method of claim 18 wherein said operator is a *tet* operator.

25. The method of claim 18 wherein said promoter is selected from the group consisting of the LexA promoter, the alcohol dehydrogenase promoter, the Gal4 promoter.

26. The method of claim 18 wherein said DNA binding domain derived from a protein selected from the group consisting of LexA and Gal4.

27. The method of claim 18 wherein said transactivating domain is derived from a protein selected from the group consisting of VP16 and Gal4.

28. The method of claim 18 wherein the mCREBa binding protein is selected from the group consisting of CKI, CKII, cdc2, MAP kinase, and S6 kinase.